



City of Carmel Utilities

Jim Brainard, Mayor

2006 Annual Water Quality Report



CITY OF CARMEL

WATER-WASTEWATER UTILITIES

Wellhead Protection Program

Carmel's Wellhead Protection Program was first initiated in 1995. The Program, regulated by the Indiana Department of Environmental Management (IDEM), recognizes that ground-water quality can be threatened by specific activities that occur in areas adjacent to Carmel's groundwater wells. The Wellhead Protection Plan focuses on prevention through proper management and education as means to protect the community's drinking water supply. Carmel Utilities has invested significant resources to develop safe and dependable drinking water, and is committed to protecting and preserving this resource for future generations.

Residents can help in this effort by properly disposing potentially harmful substances that are used in most homes, typically termed "Household Hazardous Waste" (HHW).

Petroleum products, paint products, cleaning supplies, and solvents are examples of items used that should not be dumped on the ground or down into the City's storm and sanitary sewer system. Carmel Utilities, with the assistance of IDEM grant dollars, operates a full time Household Hazardous Waste Collection Program located at 901 N. Range Line Road that collects HHW items from Carmel Utility customers and residents of the City of Carmel. For more detailed information regarding hours of operation and answers to questions about HHW please call 571-2624.

Fire Hydrant Flushing

As a means of maintaining water quality within the distribution system, fire hydrants are flushed in the spring and fall of each year. This decreases the opportunity for water to become stagnant and assists in keeping water mains clean from iron build up.



Projects Completed in 2006

Carmel Utilities Completed several projects in 2006, but most notable was the completion of a new ground water production well located at 106th and Hazel Dell Road.



New ground water production well located at 106th and Hazel Dell Road

The new well is capable of pumping in excess of 4,000,000 gallons per day of ground water to be treated at our main water treatment facility located at 126th and Hazel Dell Parkway. Approximately 50 miles of new water main projects were also completed that provide Carmel water to new development and four sub-divisions that previously were served by private wells.

In July of 2006, Carmel Utilities acquired all of the Veolia/IWC water customers located in Carmel and Clay Township. Approximately 8,000 of these customers are still receiving water from Veolia/IWC, with Carmel Utilities providing all other services related to delivering water to your home or business. In 2006, over 900 of our new customers were converted over to Carmel Water. Additional customers will be converted in 2007, with all customers being converted to Carmel Water by 2011.

Finally in 2006, a 45,000 sq. ft. maintenance and office building located at 131st Street and Shelborne was completed.

The new building provides much needed space for administrative and operations staff, as well as facilities to maintain, operate and store equipment needed to maintain Carmel Utilities water infrastructure.



50 miles of new water main projects were also completed in 2006.



The new maintenance and office building was completed in 2006.



Carmel Water Quality Excellent

Carmel Utilities takes its responsibility to provide clean drinking water to its 26,000 customers very seriously. We are pleased to report that your tap water met all Environmental Protection Agency (EPA) and state standards in 2006. In fact, we have never had a violation of Maximum Contaminant Levels (MCL). This report provides consumer information about where your water comes from, the water treatment process, what it contains and how it compares to standards set by regulatory agencies.

The purpose of this report is to keep our customers well informed, so they can support us in our effort to maintain the highest drinking water standards for the City of Carmel.

If you are interested in learning more about Carmel Utilities please call (317) 571- 2443. Or go to utilities on the City of Carmel website at www.carmel.in.gov.

Save Water, Save Energy

It takes a considerable amount of energy to deliver and treat the water you use everyday. American public water supply and treatment facilities consume about 50 billion kilowatt-hours (kWh) per year — enough electricity to power more than 4.5 million homes for an entire year. For example, letting your faucet run for five minutes uses about as much energy as letting a 60-watt light bulb run for 14 hours.

By reducing household water use you can not only help reduce the energy required to supply and treat public water supplies but also can help address climate change. In fact:

- If 1 out of every 100 American homes retrofitted with water-efficient fixtures, we could save about 100 million kWh of electricity per year — avoiding 75,000 tons of greenhouse gas emissions. That is equivalent to removing nearly 15,000 automobiles from the road for one year!
- If 1 percent of American homes replaced an older toilet with a high-efficiency toilet (HET), the country would save more than 38 million kWh of electricity — enough to supply more than 43,000 households electricity for one month.

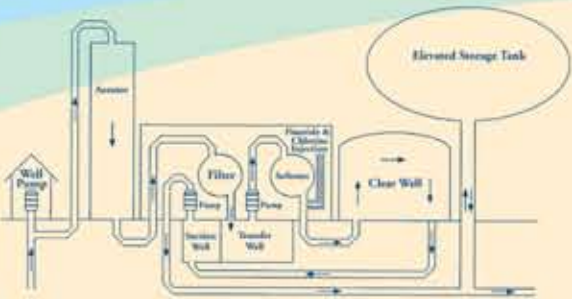
(information provided by the United States Environmental Protection Agency)



Tips for Saving Water

- When watering your lawn, position sprinklers so they are not reaching sidewalks and streets
- Use a broom rather than water to clean driveways and sidewalks
- A good way to determine if your lawn needs watering is to step on your grass — if it springs back up it is an indicator that your grass is healthy
- Grass naturally goes brown or dormant during prolonged periods of hot and dry weather. It will come back to green when the rainfall returns
- If you have a pool, using a pool cover can reduce evaporation





Water Treatment Process

The following three-step treatment process is used by Carmel Utilities to prepare clean water for its customers:

- 1. Iron Removed** — The water treatment plant aerates the water to oxidize the soluble iron found naturally in well water. The oxidized iron adheres to itself forming clumps that are filtered out of the water by iron filters.
- 2. Water Softened** — Then, the iron filtered water passes through a process where the water is softened using zeolite ion exchange softeners similar to the process used in many home softeners. Typically water is softened to five (5) grains hardness, which is considered moderately hard water. Should you desire water that has been softened to zero (0) grains hardness a home softener will be needed. During periods of extremely high summer water demands, the level of softening may need to decrease in order to meet customer demand.
- 3. Chlorine and Fluoride Added** — Chlorine is added to destroy any harmful bacteria present and to maintain a level of protection as the water travels through the distribution system. Fluoride is added to help strengthen resistance to cavities in teeth. Following the injection of chlorine and fluoride, the water enters the distribution system to be delivered to Carmel's homes and businesses.

Water Contaminants Before Treatment

The sources of drinking water (tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria;
- Inorganic contaminants, such as salts, metals and minerals;
- Pesticides;
- Organic chemicals from industrial or petroleum use;
- Radioactive materials

In order to ensure that tap water is safe to drink, Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

The Bottom Line

The results in the table indicate that Carmel Utilities treated water exceeds the quality parameters set forth by the EPA. Although the contaminants listed have appeared in our water samples, this should not alarm you. The contaminants are at levels well below the Maximum Contaminant Level (MCL) issued by the EPA and do not pose a threat to most consumers. However, some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, persons with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA and the Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791. You are

welcome to call Carmel Utilities at (317) 571-2668 with questions about your water quality.

Lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. Infants and young children are typically more vulnerable to lead in drinking water than the general population. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to two minutes before using tap water.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants, including lead, and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

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2006 Central Carmel Water Quality Report

Substance	MCL	MCLG	Average	Range	Source information
Regulated at the Treatment Plant					
Fluoride	4 ppm	4ppm	1	.5 - 1.3	Erosion of natural deposits. Water additive that promotes strong teeth. Discharge from fertilizer and aluminum factories.
Nitrate	10 ppm	10 ppm	0.04 ppm	.020 - .060 ppm	Runoff from fertilizer use. Leaching from Septic Tanks and sewage. Erosion of natural deposits.
Regulated in the Distribution System					
Chlorine Residual	4 ppm	4 ppm	0.84 ppm	.29 - 1.43 ppm	Water additive used to control microbes.
Haloacetic Acids	60 ppb	n/a	2.7	1.3 - 3.3 ppb	By-product of drinking water chlorination.
Total Trihalomethanes	80 ppb	n/a	10.025ppb	8.8 - 16.5 ppb	By-product of drinking water chlorination.
Total Coliform	5%	0.0E+01	0.0E+01	0.0E+01	Naturally present in the environment.
Regulated at Customers' Taps					
Substance	Action Level	MCLG	90th percentile		
Copper (2005 test results)	1.3 ppm	1.3 ppm	0.279		Corrosion of household plumbing systems and erosion of natural deposits. Leaching of wood preservatives
Lead (2005 test results)	15 ppb	0.0E+01	0.006		Corrosion of household plumbing systems, and erosion of natural deposits.

Important Terms

To better understand the table, about the quality of the treated water from Carmel Utilities water treatment plants, there are several terms that need defining.

Maximum Contaminant Level Goal (MCLG) — The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Contaminant Level (MCL) — This is the highest level of a contaminant allowable in drinking water. The EPA establishes the concentrations for each contaminant. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. When reading the table, compare the results shown to the MCL.

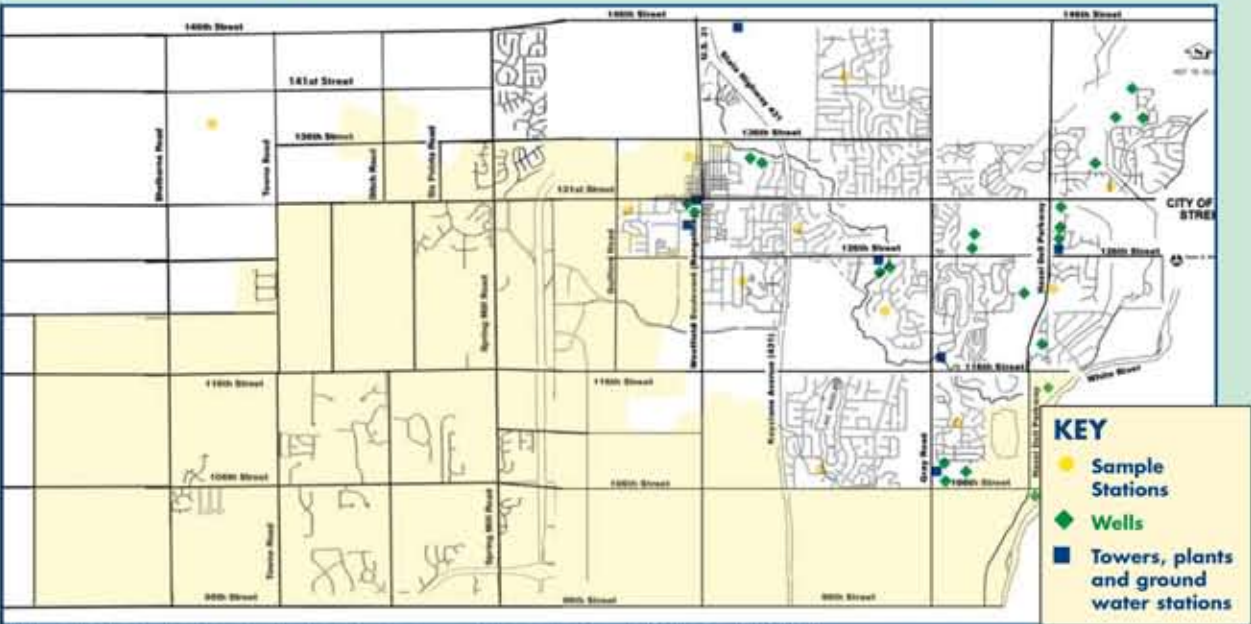
Action Level — The concentration of a contaminant (lead and copper) which, if exceeded, triggers a treatment or other requirements which a water system must follow. A utility's compliance is measured by sampling selected customers' taps.

(1) - Level detected for copper and lead represent the 90th percentile value as calculated from a total of 20 samples each.

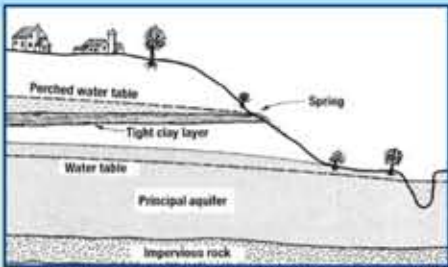
(2) - Maximum level detected for THMs and HAA5s represent the annual averages based on quarterly samples.

ppb = parts per billion ♦ ppm = parts per million ♦ pCi/L = picocuries per liter ♦ n/a = not available ♦ nd = not detectible
Data presented in this report is from 2006 testing done in accordance with state and federal regulations.

City of Carmel Water Utilities Map



Yellow shading indicates acquired customers converted over to Carmel Water in July 2006.



Source of Carmel's Water Supply

Carmel Utilities' water supply comes from a ground water source called an aquifer. The aquifer is commonly referred to as the Upper White River Basin Watershed. Twenty-one wells, located throughout the city, pump water from the aquifer to four water plants for treatment. (See map for exact locations.)

The production wells range in depth from 49 to 108 feet deep, are 10 to 24 inches in diameter, and have pumping capacities ranging from 175 to 1,700 gallons per minute.

Future plans call for the addition of three new production wells that will increase the total system pumping capacity to 25 million gallons per day.